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UNITED STATES DEPARTMENT OF CO[redacted]
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/468,452	12/21/99	CHESTER A	10102-2

IM52/1109

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EXAMINER	
ILDEBRANDO,C	
ART UNIT	**PAPER NUMBER**
1754	9

DATE MAILED: 11/09/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)	
	09/468,452	CHESTER ET AL.	
	Examiner	Art Unit	
	Christina Ildebrando	1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 August 2001* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17-22 and 24-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-22 and 24-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group II, claims 17-30 in Paper No. 8 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 17-18, 21-22, and 24-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Vasalos et al.

Vasalos et al. (US 4,153,535) discloses a catalyst composition useful in catalytic cracking processes. The composition comprises a molecular sieve cracking catalyst and a metallic reactant and preferably contains a metallic promoter (column 3, lines 39-45 and column 4, lines 20-40). Vasalos et al. teaches that both the metallic reactant and metallic promoter can be incorporated into the molecular sieve cracking catalyst (column 14, lines 46-55). The metallic promoter and metallic reactant may be incorporated by ion exchange or impregnation (column 15, lines 6-15). The average

particle size of the composition is in the range of from about 20-150 microns (column 9, lines 35-40).

Examples of a suitable metallic promoter include vanadium and compounds thereof (column 5, lines 1-5). Examples of suitable reactants include rare earth metals (column 5, lines 18-25). Cerium is exemplified (column 26, Example 4). Vasalos et al. teaches that when the promoter comprises vanadium, it is present in an amount in the range of from about 10ppm to about 10 weight percent and when the reactant comprises rare earth metals, it is present in an amount in the range of from about 0.2-10 weight percent (column 6, lines 43-48 and column 7, lines 23-32).

Suitable molecular sieves include Y-type zeolites and ultrastable, large-pore crystalline aluminosilicates (column 9, lines 62-68). Vasalos et al. teaches a silica to alumina ratio of at least about 2-12:1, preferably 4-6:1 (column 9, lines 50-55). The composition can further comprise a matrix (column 4, lines 49-65).

As each and every element of the claimed invention is taught in the prior art as recited above, the claims are anticipated by Vasalos et al.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 19-20 and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vasalos et al. as applied to claims 17-18, 21-27, and 30 above, and further in view of Chu or Miller et al.

Vasalos et al. is applied as above for claims 17-18, 21-27, and 30 above.

Vasalos et al. does not specifically teach that the ultrastable large-pore crystalline aluminosilicate is ultrastable Y (USY).

Chu (US 4,549,956) teaches that conventional cracking catalysts include large pore zeolites such as zeolite Y in its ultrastable form (column 5, line 56 – column 6, line 10).

Miller et al. (US 4,340,465) teaches that conventional cracking catalysts include large pore zeolites, including Y-type zeolite and preferably USY (column 7, lines 23-38).

It would have been obvious to one having ordinary skill in the art to modify the invention of Vasalos et al. in light of the teachings of either Chu or Miller et al. Vasalos et al. teaches the suitability of large pore zeolites in ultrastable form. Both Chu and Miller et al. teach that USY is a large pore zeolite conventionally used in catalytic cracking processes. Therefore, one of ordinary skill would have been motivated to use USY as the cracking catalyst component in the composition taught by Vasalos et al. Because all three compositions taught are useful in the same process, i.e. catalytic cracking, one would have reasonable expectation of success from the combination. With respect to the unit cell sizes, alpha values, and silica to alumina ratios instantly claimed, it is the examiner's position that the USY taught by the Chu and Miller et al. references would inherently have the values instantly claimed.

Response to Arguments

3. Applicant's arguments filed 8/30/01 have been fully considered but they are not persuasive.

With respect to the rejections over Vasalos et al., applicant argues that there are two possibilities envisaged for the incorporation of the metallic promoter or metallic reactant into the molecular sieve. Applicant further argues that neither of the possibilities taught by the reference would result in a catalytic structure as instantly claimed, namely a vanadium metal component having an oxidation state greater than zero and a catalyst composition in which the metal components have been introduced into the zeolite as exchanged cationic species.

However, applicants arguments do not appear to be commensurate in scope with the teachings of the reference of the whole. The portion to which applicants refer deals with the incorporation of the metal components by impregnation. However, the reference is not limited to this teaching. It is the position of the examiner that the teachings in column 15 are more relevant to the issues at hand than the portion cited by applicant. With reference to column 15, lines 5-10, Vasalos et al. clearly teach that the metallic promoter and metallic reactant may be incorporated by ion exchange. The reference specifically teaches that a preferred method of ion exchange involves exchanging the crystalline aluminosilicate with a solution of the metallic promoter and metallic reactant and then composite the zeolite with a matrix. Refer to column 15, lines 15 –25. As acknowledged by applicant, the molecular sieve component will only

undergo cation exchange. Therefore, it is the position of the examiner that the reference clearly teaches a catalyst composition of the type contemplated by the instant claims.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Ildebrando whose telephone number is (703) 305-0469. The examiner can normally be reached on Monday-Friday, 7:30-5, with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on (703) 308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-6078 for regular communications and (703) 305-6078 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

STEVEN P. GRIFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

CAI
November 6, 2001